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# Inquisition of Consumers Prioritization Criteria for Home Purchases in Malaysia using Multi Criteria Decisions Analysis: Does Socio-Cultural Factors Rank Highly?

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***Abstract***

*Based on previous empirical studies, there has been interesting debate about socio-cultural effects on consumers' housing preferences. As a multi-cultural country with societal polarization, Malaysia's housing market poses an interesting question; do socio-cultural factors affect consumers' housing preferences and purchase priority? If so, which factors are prioritized and preferred more by potential buyers? This paper intends to determine which socio-cultural factors are more preferred and prioritized by potential buyers. The study employs the Analytical Hierarchy Process (AHP) method to find the answers. A pairwise comparison analysis using AHP-type questionnaire is carried out to determine prioritization of buyers' preferences with regards to socio-cultural factors. A total of 102 respondents from various states in Malaysia have participated in this study. The findings show that safety and security of the residential area is the most prioritized factor by Malaysian home buyers followed by demographic profile of the residents. Interestingly, perceived social status or prestige of staying in the upmarket residential area was not highly prioritized. Overall, however, socio-cultural is not ranked first when compared to other criteria especially financial and locational factors. The result is also a representation of predominantly young educated Malay consumers with fairly 'young' career and family. In all, it is expected that this study will be beneficial and key output includes ranking of buyers' purchasing priority (Socio-cultural factors) can be leveraged by property developers, and policy makers.*

***Keywords:*** *Home Purchase, Decisions Making, MCDM, Residential Property, AHP*

## 1. Introduction

Residential properties have experienced significant growth in the past 10 years. Increment in consumers' income, mobility and change of lifestyle has escalated demand for middle to high-end residential properties. Established as well as locally known players in local real estate industry had developed tens-of-thousand residential projects nationwide. As economic theory has explained, house price movements is inherent with the regional economics and regional demographics such as income, cost of capital, stock prices and population change. However, sudden price change could affect home ownership to some extent. Under any circumstances, the need for housing as a basic necessity persist. However, the past three years has seen a worrying downward trend in consumers' demand. Demands for residential properties are slowing down and many of the projects has seen up to 30% houses unsold in many states. Bank Negara came up with a string of cooling measures to curb rising household debt that stands at almost 87 per cent of gross domestic product. Loans for properties formed the bulk of household debt at almost 50 per cent. This is why one of the cooling measures was to tighten housing loan approvals. The housing loan application rejection rate dropped to 30 per cent. This affected the property market in Malaysia and 90 per cent of respondents in a Real Estate and Housing Developers Association Malaysia survey in 2014 said they experienced a slowdown in sales. The Rehda survey (Borneo Post, 2015) shows that 31 per cent of properties in the RM500,001 to RM1 million (US$139,000 – 178,000) range were unsold last year and they were mostly in hot property markets like

Selangor and Johor. Properties in the price range of RM250,000 (US$70,000) to RM500,000 (US$139,000) had 34 per cent of the completed units unsold, mainly in Perak and Pahang. There is a strong demand for residential properties, but in the less than RM500,000 (US$70,000) category in the hot areas. High cost of construction and land has prompted developers to focus on the higher end of the market. In the meantime, according to Teck-Hong (2011) a massive over construction of houses by Malaysian housing developers has created the problem of property overhang. The term property overhang means housing units that have been issued with a certificate of fitness for occupation and have remained unsold for more than nine months (Ministry of Finance's Valuation and Property Service Department, 2006). As reported in Ministry of Finance's Valuation and Property Service Department (2009), the residential overhang units increased from 23,866 units worth RM (Malaysian Ringgit) 3.82 billion in 2007 to 26,029 units worth RM 4.476 billion in 2008. Most of the overhang units surprisingly are affordable to most households and priced at RM 150,000 and below. These unsold houses do not attract the target market and cater to the housing needs of the target group as they are situated in poor locations with no adequate amenities and less employment opportunities. In order to address the mismatch in the housing provision, it is important to know what the market really wants as house buyers are becoming more cautious before purchasing their houses. Housing developers require a detailed knowledge of how Malaysian house buyers differ in perception, opinion and preference of house purchase. Developers need to re-strategize and address this supply-demand mismatch in the property market in Malaysia and the government may want to look into land acquisition rules and procedures. In the long run, some say, the fundamentals are strong because of the expected growth in population and earning capacity, low unemployment and low non-performing loan rate are strong enough to sustain a growing property market in Malaysia. Although factors such as consumers' purchasing power, and inflation plays significant roles, ability to understand latest changes in consumers' preferences and factors that affecting purchases are also crucial. Hence, it is critical for real estate players to understand latest buyers' preference and priority when purchasing residential property. With knowledge on what is currently in demands or what were highly prioritized by potential buyers, risk of unsold property units can be reduced. The objective of this study is to identify whether socio-cultural factors are preferred, and which are highly prioritized by home buyers. The remaining part of this paper is organized as follows. *Section 2* reviews some relevant literatures followed by method of analysis in *Section 3. Section 4* explains the proposed criteria while *Section 5* depicts the hierarchical diagram. *Section 6* focuses on the findings and the paper ends with discussions in *Section 7*.

## 2. Literature Review

### 2.1 Home Owning

According to Saunders (1990), people have natural preference towards home owning. Saunders (1990) further explained that people‟s natural preference in terms of their controlling intuition and the aspiration to mark down their own territory are the reasons of home owning. The decision to own a house might be affected by a desire to have a property of one‟s own, a desire for stability and pride of ownership, things that cannot be easily captured by age or income (Haurin et al., 2002). There is much evidence that motivation has been an important reason in the explanation of homeownership (Tan, 2009). The benefits of home owning to both owners and society can be found in many housing studies ranging from socio benefits to economic benefits. Haurin et al., (2002) proved that owning a house improves the home environment in which a child lives, improves a child‟s cognitive ability and reduces behavior problems. Rohe et al., (2001) and Tan (2009) both pointed out home owning increases households‟ self-esteem and life satisfaction because it can be viewed as a significant achievement of a household.

### 2.2 Housing Attributes

Wang & Li (2006) argued that buying a house is a multi-elements exercise, involving tenure options, housing types, neighborhood, location etc. as housing preferences will thereafter be determined by a set of various attributes of the housing households will search for (Hurtubia et al., 2010). Housing attributes have been shown in many literatures ranging from intrinsic housing attributes such as interior living spaces (Lindberg et al., 1989; Cupchik et al., 2003), extrinsic attributes such as exterior design and exterior space (Bhatti & Church, 2004) to neighborhood and locational indicators such as environmental qualities (Zabel & Kiel, 2000; Yusuf & Resosudarmo, 2009; Tan, 2011a). With respect to the locational attributes of housing, distance to the workplace, schools, retailing outlets and public transportation stations have been found to be significant considerations for house buying. The study by Kauko (2007) indicated that a good location is an important factor that determines the success or failure of the housing development project. In China, living convenience to daily goods shopping is an important consideration for homeownership preference (Wang & Li, 2006). As stated by Tan (2011a), a house that is located in a good neighborhood is preferred as households are willing to pay extra for a house with good environmental qualities in the neighborhood. It is also documented that households are willing to pay more to live in a neighborhood with low crime rate and other security problems (Wang & Li, 2006). It is widely known that housing markets have largely explored the requirement for structural attributes of housing (Fierro et al, 2009). These structural attributes of housing have been brought up in many literatures as influencing households‟ house buying preferences (Opoku & Abdul-Muhmin, 2010). The most common structural attributes that could have impacts on home owning preferences are size of housing lot, number of bedrooms and bathrooms, and presence of garden in a house. Numerous empirical studies have identified the relative importance of socio-cultural attributes of housing in house buying decisions (Jabareen, 2005). In summary, most home buyers want their homes to be located conveniently in relation to place of employment, schools, shops, recreational facilities and transportation. They may also place priority on the characteristics of the surrounding area, such as the quality of a dwelling, the quality and cost of public facilities, social environment, absence of noise and pollution, and any prestige attached to the area. Based on previous empirical studies, there has been an interesting debate about the relative importance of these factors in housing preferences. Therefore, this paper intends to contribute to literature by developing an understanding on which housing attributes, as defined by locational, neighborhood, structural and socio-cultural attributes contribute to home owning preferences among homebuyers in the Malaysian context.

## 3. Proposed Method of Analysis

### 3.1 Description of Methodology

The proposed research intends to employ one of the MCDM methods which is the Analytical Hierarchy Process (AHP) to find answers on the issues and the predetermined research objectives. A pairwise comparison analysis using AHP-type questionnaire will be carried out to determine prioritization of buyers' preferences. By using the AHP method, researchers will be able to identify and prioritize latest buyers purchasing preferences. It is proposed that respondents may include buyers (middle to high income groups) representing different geographical locations (northern, Klang Valley, and southern part of the Peninsular). The analytic hierarchy process (AHP) is a structured technique for organizing and analyzing complex decisions, based on mathematics and psychology. It was developed by Thomas L. Saaty in the 1970s and has been extensively studied and refined since then. It has particular application in group decision making and is used around the world in a wide variety of decision situations, in fields such as government, business, industry, healthcare, shipbuilding and education. Rather than prescribing a "correct" decision, the AHP helps decision makers find one that best suits their goal and their understanding of the problem. It provides a comprehensive and rational framework for structuring a decision problem, for representing and quantifying its elements, for relating

those elements to overall goals, and for evaluating alternative solutions. It is the essence of the AHP that human judgments, and not just the underlying information, can be used in performing the evaluations. The AHP converts these evaluations to numerical values that can be processed and compared over the entire range of the problem. A numerical weight or priority is derived for each element of the hierarchy, allowing diverse and often incommensurable elements to be compared to one another in a rational and consistent way. This capability distinguishes the AHP from other decision making techniques. Measurement scales and procedural steps used for this experimental method is based on Saaty (2000) study.

### 3.2 The AHP Process Algorithm and Prioritization of the Selection Factors

The AHP method is based on three key steps in which are (1) decomposition, (2) comparative judgement, and (3) synthesis of priorities (Korpela and Tuominen, 1996). The first step involves breaking down problem and creating hierarchical structure of several elements. The hierarchy comprises of goal, criteria, sub-criteria and alternatives. The second step is to determine the relative importance of each elements via pairwise comparison. Then, the third step is to assess the composite weight of each decision alternative (Opasanon and Lertsanti, 2013). The summary of the steps to carry out the AHP method is as follows (Saaty, 2008):

1. Develop the hierarchy of the problem comprising of the decision goal, the alternatives, and the criteria for evaluating the alternatives.
2. Establish priorities among the elements of the hierarchy by using the pairwise comparisons analysis. Hence, pairwise comparison matrix should be developed for each decision alternative for each criterion.
3. Synthesize these judgments to generate set of overall priorities for the hierarchy. This can be done by computing the normalized matrix, followed by developing the preference vector, determining overall score for each decision alternative, and finally rank the decision alternatives.
4. Check the consistency of the judgments. This can be done by determining the degree of consistency for the pairwise comparisons in the decision criteria matrix using the following formula:

$$\frac{CI}{RI} < 0.1$$

Where

CI = Consistency Index

RI = Random Index

5. Make a final decision.

## 4. Proposed Criteria

The buyers' selection criteria are based on studies by Sean and Hong (2014), Musa et al., (2015), Osmadi et al., (2015), and Yi (2015). The criteria can be divided into five *(5) main factors* (illustrated in *Figure 1*) for which are:

### 4.1. Locational

Refers to locational factors for which is about accessibility and proximity to local amenities such as nearest school, market, shopping malls, public transport facilities, offices or business area and major highways. Daly et al. (2003) claimed that location has a major impact on buyer's preference in purchasing residential properties in Australia, UK and Ireland. Distance is described as a factor that affects buyer's preference in the decision making of property buyers,

such as distance to workplace, schools, shops and central business districts (Sean and Hong, 2014). The proposed sub-criteria are divided into the following locational types: *educational institutions (a1), workplace and business facilities (a2), public transports (a3), major highways (a4), religious and community places (a5)*.

### 4.2. Structural

Refers to the physical design of a house such as type of properties, number of rooms, number of washrooms, interior design, parking space, as well as land and built area. Generally, the structural type of a preferred properties is also related to the buyer's purchase intention. For those seeking for investment, a smaller property such as flat or apartment is preferable. Proposed sub-criteria: *exterior design (b1), interior design (b2), size (b3),* and *type of the property (b4).*

### 4.3. Socio-Cultural

Social and cultural factors refer to considerations related to the neighborhood, type of communities, religious facilities, age groups, status and safety. Studies by Chapman and Lombard (2006) stated that neighborhood environment, such as cleanliness, pollution and crime are important factors before deciding on the purchase of a property. It is of prime importance that safety in the neighborhood is the main concern for property purchasers in Malaysia nowadays due to an increase in the trend of crimes such as burglary and snatch thefts (Sean and Hong, 2014). There is also a perception that gated or guarded properties symbolizes higher status or image. Proposed sub-criteria: *type of neighborhood (c1), safety (c2), social status/prestige (c3), demographic profiles (c4).*

### 4.4. Financial

Financial factors related only to the property such as special discounted sales price, specific bank's interest rates, and exclusive bank's loan facilities. Karsten (2007) mentioned that affordability is a major factor in terms of making purchasing decisions of a residential property. According to Sean and Hong (2014) in Malaysia, the ability to obtain financing has now been stricter since January and the Central Bank of Malaysia has lowered the loan-to-value (LTV) ratio to 70% for the third property onwards. Proposed sub-criteria: *loan facilities (d1), interest rates (d2), sales prices (d3), other specific monetary promotions (d4).*

### 4.5. Developers

This factor refers to the perceptions of consumers towards property developers in terms of image and reputation. The proposed sub-criteria are as follows: *reputations (e1), perceived quality of products (e2), perceived after sales services (e3), warranties (e4), and non-financial incentives such as gifts (e5).*

## 5. Hierarchical Diagram

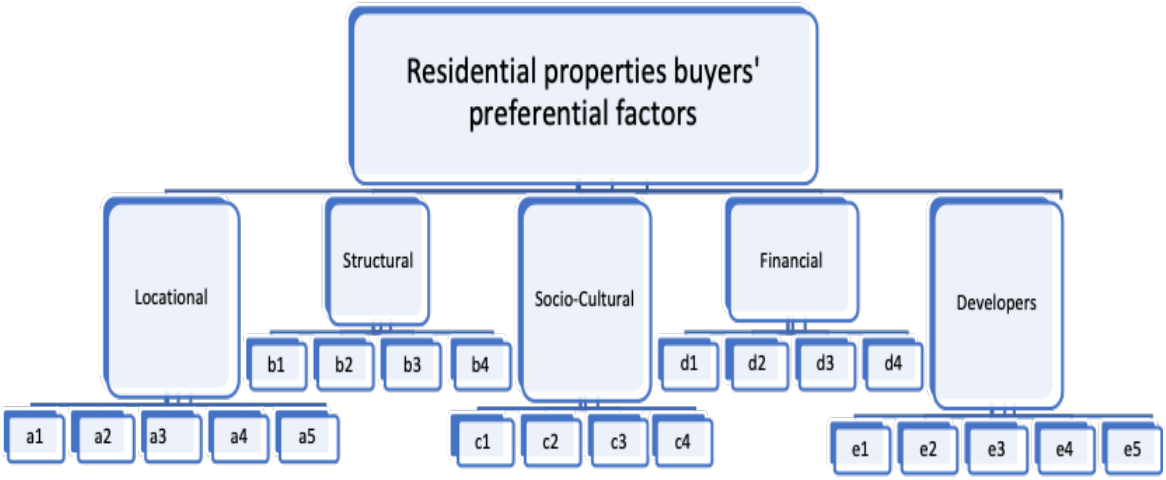


**Figure 1: Hierarchical Diagram**

## 6. Findings

The following *Table 1* highlights key findings for the demographic profile of the respondents. A 102 respondents participated in the survey. The respondents coming from various (***102 respondents***):

**Table 1. Profile of the respondents**

| Category | Highlights |
|---|---|
| **Age** | Many of the respondents are young potential buyers aged below 30 (58%) whilst only 10% above 40-year-old |
| **Sex** | 2/3 of the respondents are female |
| **Ethnicity** | Majority of the respondents are Malay (86%) |
| **Religion** | Majority of the respondents are Muslim (88%) |
| **Marital status** | Less than half of the respondents are married (42%) |
| **State of residence** | Around half of the respondents resides in Kedah and Perlis while 34% lives in Klang Valley |
| **Academic** | Almost all of the respondents are at least degree holders (96%) |
| **Employment** | 38% of the respondents are still seeking for jobs (unemployed), 4% are entrepreneurs while the rest are either working in public or private sectors |
| **Monthly Income** | Almost 2/3 of the respondents earn less than RM5000 per month (66%) while only 14% of them earn RM10000 or more monthly |

Data analysis was carried out using Microsoft Excel. Synthetization of the judgments was then executed in order to generate set of overall priorities for the hierarchy. This can be done by computing the normalized matrix, followed by developing the preference vector, determining overall score for each decision alternative, and finally rank the decision alternatives. Finally, consistency of the judgments has to be determined by identifying the degree of its consistency. The following *Table 2* and *Table 3* depicts the prioritization result for the main criteria and the consistency index/ratio. Five (5) main criteria were evaluated: (1) Locational, (2) Structural, (3) **Social (Socio-cultural),** (4) Financial, and (5) Developer. The result shows that financial is the highest rank factor (0.444) followed by location (0.158), social (0.154), structural (0.127) and developer (0.117). In a nutshell, this indicates that financial factors such as the property's sales price, loan interest, availability of purchasing loan and other financial incentives are highly preferred and prioritised by potential buyers. Locational factors placed second on buyers' priority list. Factors such as proximity to workplace and religious facilities as well as access to public transports and major highways are deemed important by the buyers. The third most prioritised

criteria are social factors such as safety, demographic profiles of the neighbourhood and perceived social status of the residential area. Structural and developer were the two least prioritised criteria by potential buyers. Structural criteria refer to physical structure of the property such as size, type, exterior and interior design, while developer's criteria refer to factors such as developer's reputation, after sales services, warranty and other non-monetary incentives. The findings also show good consistency ratio of 0.0408 in which less than the required 0.10. This indicates that respondents understood the questionnaire and were consistent in their answers. Consistency ratio is important to indicate the reliability of the responses.

**Table 2. Main Criteria**

| | Location | Structural | Social | Financial | Developer | | Total | CI | Rank |
|---|---|---|---|---|---|---|---|---|---|
| **Location** | 0.14 | 0.29 | 0.12 | 0.12 | 0.12 | 0.79 | **0.158** | 5.240036315 | 2 |
| **Structural** | 0.06 | 0.12 | 0.13 | 0.14 | 0.19 | 0.63 | **0.127** | 5.077035652 | 4 |
| **Socio-Cultural** | **0.16** | **0.14** | **0.15** | **0.13** | **0.19** | **0.77** | **0.154** | **5.187532564** | **3** |
| **Financial** | 0.51 | 0.38 | 0.51 | 0.45 | 0.37 | 2.22 | **0.444** | 5.224513112 | 1 |
| **Developer** | 0.14 | 0.08 | 0.10 | 0.15 | 0.12 | 0.59 | **0.117** | 5.185603389 | 5 |
| | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | CI | 0.045736052 | |
| | | | | | | | RI | 1.12 | |
| | | | | | | | **C RATIO** | **0.04083576** | |

***Socio-Cultural*** criteria depict *safety* as the overwhelming no 1 prioritised factor (0.499) by potential buyers followed by demographic profiles of the residents (0.211), perceived social status of the residential area (0.149) and the neighbourhood factor (0.140). The result also shows good consistency ratio of 0.0105. The findings indicate the importance of a safe neighbourhood. Low crime, or those guarded or gated residential area are much desired. In the meantime, Malaysian in general also prefer to reside in the area where most (if not all) of the residents are of the same ethnicity or religious background (demographic profiles).

**Table 3. Socio-Cultural Criteria**

| Calculating Weight and Consistency Index | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Neigh | Safety | Status | Demo | | Total | Weight | CI | Rank |
| **Neigh** | 0.13 | 0.12 | 0.18 | 0.13 | | 0.56 | 0.140 | 4.01964 | 4 |
| **Safety** | 0.55 | 0.50 | 0.42 | 0.53 | | 2.00 | **0.499** | 4.058625 | 1 |
| **Status** | 0.12 | 0.19 | 0.16 | 0.13 | | 0.60 | 0.149 | 4.019669 | 3 |
| **Demo** | 0.20 | 0.19 | 0.24 | 0.20 | | 0.84 | 0.211 | 4.028184 | 2 |
| | 1.00 | 1.00 | 1.00 | 1.00 | | | | | |
| | | | | | | | CI | 0.01051 | |
| | | | | | | | RI | 0.9 | |
| | | | | | | | C RATIO | 0.011678 | |

## 8. Discussions and Implications

The study attempts to investigate home buyers' preferences and to develop prioritization ranking with focus on socio-cultural factors. The aim is to understand which socio-cultural factors are highly prioritized or preferred, and which should be the one that developers and the policy makers should leverage more. In doing so, the AHP technique is used to identify buyers' priorities. The findings indicate two outcomes: (1) Socio-cultural criteria is ranked 3rd among the main criteria, and (2) safety is the no 1 prioritized factor within the socio-cultural criteria. The

first outcome indicates that home buyers prioritize financial and locational factors higher than socio-cultural. Nonetheless, safety of the neighborhood and the demographic profile of the residents are the two highly prioritized factors within the socio-cultural criteria. The results also reveal some interesting findings. Buyers prefer to stay in the neighborhood where residents share similar demographic profile in terms of ethnicity, nationalities, or religious background. For instance, Muslim buyer would prefer to buy house in a Muslim-majority residential area. On the contrary, perceived status or social prestige that may be secured from living in a certain residential area are not highly prioritized or preferred by home buyers. In all, property developers should focus on the safety aspect of the housing project. It is expected that demand for guarded or gated residential area as well as residential area with good safety reputation will increase. Safety for low-to-medium cost housing such as flats and apartment are also perceived to be important by young buyers. Sales strategy targeting potential buyers with similar demographic profile can also be considered. Overall findings also suggested that developers as well as policy makers should prioritize more on the financial factors first. Nevertheless, understanding only the buyers' side may not be comprehensive enough to determine what really happens in the property market. There are also potential gaps between what the buyers' want and developers' priorities. For policy makers, determining these gaps may be critical in order to return the residential property market back to its former glory and to ensure higher home ownerships among Malaysian. It is therefore recommended that impact of these factors is considered for future investigations.

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